

REMARKS

In response to the Office Action mailed July 18, 2006, Applicants respectfully request reconsideration. To further the prosecution of this application, each of the rejections in the Office Action has been carefully considered and is addressed below. The application, as presented, is believed to be in condition for allowance.

Claim Rejections

The Office Action rejects claims 1, 10, and 19 under 35 U.S.C. §102(e) as purportedly being unpatentable over Hochberg (Pub. No. 2005/0055518) and rejects claims 2-9, 11-18, 20, and 21 under 35 U.S.C. §103(a) as purportedly being obvious over Hochberg in combination with various other references. The Office Action does not specify the basis for the rejection of claims 22-73, but asserts that these claims “can be rejected on a similar basis to the above.” *See Office Action, page 6.*

Discussion of Hochberg

Hochberg is directed to a method and system for managing retention of stored objects (Abstract). When a request to store an object is received, a new object entry is added to an object table (§38, lines 4-18; Figure 4, blocks 100 and 102). The object entry in the object table specifies an object ID for the object, a name for the object, the location at which the object is stored, the archive policy associated with the object, and several other fields (§38, lines 15-18; Figure 2). The archive policy for the object is specified in the request to store the object (§38, lines 4-18). If the specified archival policy is not an event-based policy, then an expiration entry for the object is created in an expiration table (§39, lines 4-11; Figure 4, block 112). The expiration entry for the object specifies its object ID; the retention period start (which is set as the current time), the retention period (which is set to the retention specified in the archive policy defined for the object), and a status field (which is set to “active”) (§39, lines 6-17; Figure 3).

When a request to delete an object is received, the expiration entry for the object in the expiration table is accessed, and it is determined if the retention period has expired by determining whether the current time minus the retention period start (specified in the expiration entry) exceeds

the retention period specified in the expiration entry (§46, lines 13-26; Figure 8, blocks 244 and 246). If not, then the request to delete the object is denied (Figure 8, block 240). Otherwise, the object is deleted and its entries removed from the object table and expiration table (Figure 8, block 234).

As should be appreciated from the foregoing, when a delete request is received, the Hochberg system does not first determine which archive policy is associated with the object identified in the request, and then determine the retention period specified by the archive policy. Rather, the retention period for an object is determined when the object is stored and an expiration entry for the object is created in the expiration table. Thus, when a delete request is received, the retention period specified in the expiration entry is accessed and used to determine whether the object may be deleted. The retention period specified in the archive policy is not evaluated in response to a delete request, but only at the time of storage. This has an impact on the way retention periods for objects can be modified.

Figure 7 of Hochberg shows a process by which the retention period for an object may be modified by modifying the archive policy specified in the object entry for the object. A request to modify the archive policy is limited to the policy for a single object specified in the request (§45, lines 4-5; Figure 7, block 200). When it is determined that the modification is permitted, the modification is performed by updating the retention period specified in the archive policy 36 field of the object entry 30 (§45, lines 19-25). Thus, the archive policy for an object is modified by modifying the object's entry in the object table. The system of Hochberg does not modify the archive policies for multiple objects at once by modifying information that specifies the retention period for multiple objects. Rather, in the system of Hochberg, the archive policy for each object is modified on an individual basis, by updating the object entry associated with that object.

Claims 1-28

Claims 1-28 are canceled without prejudice or disclaimer. Thus, the rejection of these claims is moot.

Claims 29-73

As discussed above, the Office Action does not specify the bases for rejection of claims 22-73, but rather asserts that these claims can be “rejected on a similar basis to the above.” The rejection of these claims is respectfully traversed, as these claims patentably distinguish over the cited references. The distinctions between each of independent claims 29, 45, and 61 and Hochberg are highlighted below.

Independent Claims 29 and 45

Each of claims 29 and 45 recites: (B) determining whether a previously-defined retention period for the unit of data has expired by performing acts of; (B1) retrieving first information, associated with the unit of data, that identifies a manner of accessing second information specifying the previously-defined retention period; (B2) using the first information to retrieve the second information specifying the previously-defined retention period.

As discussed above, Hochberg does not determine whether a previously-defined retention period for an object has expired by first determining the archive policy defined for the object, and then looking up the retention period specified by that archive policy. Rather, in the system of Hochberg, determining the retention period for an object in response to a delete request for the object is accomplished simply by retrieving the retention period from the expiration entry in the expiration table of the object. Thus, if the retention period associated with the archive policy for an object is changed after the object has been stored, the change in retention period will not be reflected in the expiration entry for the object.

Thus, independent claims 29 and 45 patentably distinguish over Hochberg.

Independent Claim 61

Claim 61 recites a controller to, “determine whether a retention period for the unit of data has expired by performing acts of: retrieving first information, associated with the unit of data, that identifies a manner of accessing second information specifying the previously-defined retention

period; and using the first information to retrieve the second information specifying the previously-defined retention period.”

As should be clear from the discussion above, Hochberg fails to disclose or suggest this limitation of claim 61. Thus, claim 61 patentably distinguishes over Hochberg.

Claims 74-91

Claims 74-91 are newly added in this application and patentably distinguish over Hochberg and the other cited references. The distinctions between the independent claims and Hochberg are highlighted below.

Independent Claims 74 and 80

Independent claims 74 and 80 each recite an act of “transmitting a request from the at least one host to the at least one storage system to modify the retention period specified by the retention class, thereby modifying a period of time during which the plurality of data units belonging to the retention class cannot be deleted from the at least one storage system.”

Hochberg fails to disclose or suggest this limitation of claims 74 and 80. As discussed above, in the system of Hochberg, a retention period for an object is not modified by modifying the retention period of a retention class to which the object belongs, but rather by modifying information specified in the object entry for that particular object. That is, in the system of Hochberg, to modify the retention period of multiple objects, the object entry for each object must be modified. Hochberg does not disclose modifying the retention period for multiple previously stored objects by modifying the retention period for a retention class to which the objects belong.

Thus, claims 74 and 80 patentably distinguish over Hochberg. Claims 75-79 depend from claim 74 and claims 81-85 depend from claim 80. Each of these dependent claims patentably distinguishes over Hochberg for at least the reasons as its respective independent claim.

Independent Claim 86

Independent claim 86 recites a controller to “transmit a request to the at least one storage system to modify the retention period specified by the retention class, thereby modifying a period of

time during which the plurality of data units belonging to the retention class cannot be deleted from the at least one storage system.”

As should be clear from the discussion above, Hochberg does not disclose or suggest this limitation of claim 86. Thus, claim 86 patentably distinguishes over Hochberg. Claims 87-91 depend from claim 86 and are patentable for at least the same reasons.


CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below to discuss any outstanding issues relating to the allowability of the application.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

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Respectfully submitted,
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